CLAIMS

1. A method comprising:

generating a mesh grid representation of uncovered surfaces of the object;

simulating hair in each of the grid elements; and

sampling the hair into a volume texture on a per-grid element basis.

2. A method according to claim 2, further comprising:

parameterizing a texture in each of the grids.

3. A method according to claim 3, wherein parameterizing the texture comprises:

identifying one or more interactive control and/or viewing parameters associated with each grid of the mesh which determine, at least in part, what elements of the surface detail model are used to render surface detail in that grid element.

4. A method according to claim 4, further comprising:

generating a shell texture model for each grid of the mesh based, at least in part, on the parameterization of the grid elements.

5. A method according to claim 1, wherein developing a surface detail model comprises:

generating a shell texture model for each element of a dynamically generated grid representation of uncovered surfaces of an object.

6. A method according to claim 6, wherein generating a texture model comprises:

generating a mesh grid representation of uncovered surfaces of the object;

simulating hair in each of the grid elements; and

sampling the hair into a volume texture on a per-grid element basis.

7. A method according to claim 7, further comprising:

utilizing the volume texture to generate semi-transparent concentric shells of the volume texture, which are layered over select areas of the object surface.

8. A storage medium comprising a plurality of executable instructions which, when executed, implement a modeling agent to develop a surface detail model utilizing at a modeling technique, and to render surface detail in accordance with the developed surface detail model over an object surface.

9. A storage medium according to claim 8, wherein the modeling agent generates a mesh grid representation of uncovered surfaces of the object, simulates hair in each of the grid elements, and samples the hair into a volume texture on a per-grid element basis to develop the surface detail model.

10. A storage medium according to claim 9, wherein the instructions to implement the modeling agent further comprise instructions to parameterize a texture in each of the grids.

11. A storage medium according to claim 10, wherein the instructions to implement the modeling agent further comprise instructions to generate a shell texture model for each grid of the mesh based, at least in part, on the parameterization of the grid elements.

12. A storage medium according to claim 10, wherein the instructions develop the surface detail model comprise instructions to generate a shell texture model for each element of a dynamically generated grid representation of uncovered surfaces of an object.

13. A storage medium according to claim 12, wherein the instructions to generate a texture model comprise instructions to generate a mesh grid representation of uncovered surfaces of the object, simulate hair in each of the grid elements, and sample the hair into a volume texture on a per-grid element basis.

14. A storage medium according to claim 13, wherein the instructions to implement the modeling agent further comprise instructions to utilize the volume texture to generate semi-transparent concentric shells of the volume texture, and to layer the shells over select areas of the object surface.

15. An apparatus comprising:

a modeling agent, to develop a surface detail model utilizing a modeling technique appropriate for a given set of viewing parameters; and

a render engine, responsive to the modeling agent, to render surface detail in accordance with the developed surface detail model over an object surface.

16. An apparatus according to claim 15, the modeling agent comprising:

a geometry preprocessor module, to generate a mesh grid representation of uncovered surfaces of the object, to simulate hair in each of the grid elements, and sample the simulated hair into a volume texture on a per-grid element basis.

17. An apparatus according to claim 16, wherein the geometry preprocessor parameterizes a texture in each of the grid elements.

18. An apparatus according to claim 17, wherein the geometry preprocessor generates a shell texture model for each grid element of the mesh based, at least in part, on the parameterization of the grid element(s).

19. An apparatus according to claim 15, wherein the surface detail engine generates a shell texture model for each element of a dynamically generated mesh grid representation of uncovered surfaces of an object.

20. An apparatus according to claim 19, the surface detail engine comprising:

a geometry preprocessor, to generate a mesh grid representation of the uncovered surfaces of the object, to simulate hair in each of the grid elements, and to sample the hair into a volume texture on a per-grid element basis.

21. An apparatus according to claim 20, the surface detail engine comprising:

a shell generator module, to utilize the volume texture and generate a semi-transparent concentric shell(s).

22. An apparatus according to claim 21, further comprising:

a memory device including a plurality of executable instructions; and

a controller, coupled to the memory device, to execute at least a subset of the plurality of executable instructions to implement the surface modeling agent.